

## Children Associate Racial Groups With Wealth: Evidence From South Africa

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Group-based social hierarchies exist in nearly every society, yet little is known about whether children understand that they exist. The present studies investigated whether 3- to 10-year-old children ( $N = 84$ ) in South Africa associate higher status racial groups with higher levels of wealth, one indicator of social status. Children matched higher value belongings with White people more often than with multiracial or Black people and with multiracial people more often than with Black people, thus showing sensitivity to the de facto racial hierarchy in their society. There were no age-related changes in children's tendency to associate racial groups with wealth differences. The implications of these results are discussed in light of the general tendency for people to legitimize and perpetuate the status quo.

Nearly every human society includes groups of people who vary in social status (Sidanius & Pratto, 1999). History is replete with examples of societies in which groups are clearly delineated by status, from the caste systems of India and New Spain to the Jim Crow policies of the American South. The country at the center of the present article—South Africa—was home to one of the most notorious examples of legally sanctioned social hierarchy: apartheid. From 1948 to 1994, the South African government built upon and strengthened an existing race- and privilege-based social hierarchy created by the Dutch and British colonial administrations. Apartheid laws enforced a strict race-based hierarchy with Whites as the highest status group, Blacks as the lowest status group, and groups like Coloureds (people of mixed racial heritage) and Indians in between (Finchilescu & Tredoux, 2010). Even societies without de jure hierarchy delineations often feature de facto group-based hierarchies (Sidanius & Pratto, 1999).

Most children are born into and develop in societies with legally enforced or culturally implied group-based hierarchies. The present article investigates whether or not children in South Africa are sensitive to group-based social hierarchies in their society. We focus in particular on children's perceptions of wealth, one observable aspect of social status. Determining whether children represent differences between the relative status of different racial groups is important, given evidence that people tend to believe that the way things are is the way they ought to be (e.g., Jost & Banaji, 1994; Kahneman, Knetsch, & Thaler, 1991; Lerner, 1980; Sidanius & Pratto, 1999). Observing status hierarchies in their society may lead children to see higher status racial groups as more deserving of their status; even more insidiously, children may set their own aspirations according to their perception of their group's status in society. We focus on children in South Africa, a country with a long history of race-based status differences, including wealth disparities that persist to the present day.

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### *Wealth as an Indicator of Social Status*

Although status can take many forms, one especially important cue to the social status of individuals and groups is wealth. In nearly all societies, wealth

and material resources distinguish groups from one another (Sidanius & Pratto, 1999), and conflict over valuable resources can, and often does, ignite violence and civil war (Bhavnani, 2009; Collier & Hoeffler, 1998; Lujala, 2010). However, wealth as a cue to status is understudied in research on child development, perhaps because wealth may not be seen as directly relevant to children: Children do not typically possess much money, nor do they have a deep or accurate understanding of economics (Berti & Bombi, 1981; Bonn & Webley, 2000; Danziger, 1958; Emler & Dickinson, 2005; Grunberg & Anthony, 1980). Nevertheless, because wealth is used to purchase items that surround children in their daily lives (e.g., houses, cars, clothes, toys), children are likely to observe indications of wealth every day. Unlike some of the more symbolic cues to status, such as political power or family lineage, wealth can be inferred from direct observations of higher and lower value personal belongings, and thus may serve as a particularly important indicator as children learn about the relative status of the individuals and groups in their society.

Previous research suggests that children show some awareness of cues that signify differences in wealth (Jahoda, 1959; Leahy, 1981). For example, 3- to 5-year-old children can use visual cues to differentiate "rich" and "poor" people (Ramsey, 1991), first-grade children assign people depicted as rich to fancier cars and houses (Mookherjee & Hogan, 1981), and by 9 years of age children endorse stereotypes that rich people are better than poor people in domains such as academics and music (Woods, Kurtz-Costes, & Rowley, 2005; see also Skafte, 1989, for stereotypes associated with wealth in adolescents). Research has also shown that children and adolescents understand some of the social factors that contribute to wealth and poverty (e.g., having the right connections, knowing that there are not enough jobs for everyone; Chafel, 1997; Flanagan, Ingram, Galloway, & Galloway, 1997; Karniol, 1985; Leahy, 1983, 1990).

#### *Children's Use of Group Differences in Social Status*

Previous research provides some evidence that children are sensitive to the relative status of social groups in their environment. For example, in an experimental manipulation of group status, elementary school-aged children were assigned to novel groups depicted as consistently high or low status in a variety of domains (athletic skill, leadership ability, intelligence, occupational prestige, and classroom behavior). When teachers used group

labels and distinctions to organize the classroom (e.g., "The blue group can line up now"), children arbitrarily assigned to the higher status novel group liked their own group more than children assigned to the lower status group liked their group (Bigler, Brown, & Markell, 2001). This pattern of preference for high- over low-status novel groups provides evidence that children are sensitive to some cues to the relative status of groups, and that these cues can guide children's intergroup attitudes (see also Nesdale & Flessner, 2001). However, since previous studies of children's perceptions and preferences based on social group status have used experimenter-defined novel groups rather than familiar groups (e.g., race), it remains to be seen how these findings apply to children's understanding of group status in their everyday lives.

Decades of research on racial attitudes provide indirect evidence that children are sensitive to differences in the status of groups in the real world. In a wide variety of settings, children who are members of higher status racial groups show more in-group favoritism than children from lower status racial groups, at least prior to middle childhood (Aboud, 1988; Clark & Clark, 1947; Ramsey & Myers, 1990; Spencer, 1984). For example, White American children in preschool and elementary school show more in-group favoritism than Blacks or Hispanics (Aboud & Skerry, 1984; Brand, Ruiz, & Padilla, 1974; Kircher & Furby, 1971; Newman, Liss, & Sherman, 1983; Teplin, 1976); White Canadian children show more in-group favoritism than First Nations children (Corenblum & Wilson, 1982; Hunsberger, 1978); White New Zealander children show more in-group favoritism than Maori children (Vaughan, 1964); White British children show more in-group favoritism than West Indian or Asian children (Davey, 1983); and White South African children show more in-group favoritism than Black South African children, who show no in-group favoritism (Fincham, 1978; Gregor & McPherson, 1966; Press, Burt, & Barling, 1979; Shutts, Kinzler, Katz, Tredoux, & Spelke, 2011). The widespread documentation of preference asymmetries in early childhood suggests that children's social attitudes early in life may be influenced by the relative status of groups in their society. However, it is important to note that some research shows that patterns of racial preferences among low- and high-status children can change during middle childhood (Raabe & Beelmann, 2011).

While much of the previous research highlights differences in children's evaluations of their own in-group relative to an out-group, researchers have observed status-consistent evaluations of children's

out-groups as well. Children from lower status racial groups generally prefer higher status racial groups over other lower status groups. For example, Black children favor Whites over Hispanics (Rice, Ruiz, & Padilla, 1974); Hispanic American children favor Whites over Blacks (Teplin, 1976); Asian British children favor Whites over West Indians, and West Indian British children favor Whites over Asians (Davey, 1983); and Coloured South African children favor Whites over Blacks (Shutts et al., 2011). Similarly, children from high-status racial groups favor other higher status racial groups over lower status racial groups. For example, White Australian children favor Asians over Aborigines (Black-Gutman & Hickson, 1996); Taiwanese children favor Whites over Blacks (Kowalski & Lo, 2001); and White South African children favor Coloureds over Blacks (Shutts et al., 2011). Taken together, this large body of work suggests that children may be sensitive, at least implicitly, to the relative status of racial groups, as indicated by their relative preference for higher status racial groups on attitude measures.

A handful of studies provide more direct evidence that children associate race and social status. Bigler, Averhart, and Liben (2003) investigated Black children's perceptions of racial differences in occupational prestige. Black children reported that Whites were more likely to have familiar higher status jobs (e.g., doctor) and that Blacks were more likely to have familiar lower status jobs (e.g., janitor). Most provocatively, when children were introduced to a novel occupation depicted with a Black person, children thought that this occupation was lower in status than when they were introduced to the same novel occupation depicted with a White person (Bigler et al., 2003; see also Brown, Mistry, & Bigler, 2007, for evidence that Black children are aware of how Hurricane Katrina disproportionately affected Blacks). These results demonstrate that at least some children (namely, children from a minority racial group in the United States) think that there are differences in the relative occupational prestige of racial groups.

Two previous studies investigated whether American children believe there to be a relation between race and wealth. Zinser, Rich, and Bailey (1981) asked children directly whether a particular White or Black child was poorer. Third- and fifth-grade children systematically believed the Black child to be poorer, but preschoolers and first-grade children showed no such belief (i.e., they were just as likely to select the White child as poorer as they were to select the Black child). In one study, Radke

and Trager (1950) asked a group of kindergarten, first-grade, and second-grade American Black and White children to match Black and White paper dolls with indicators of differential status (clothes indicative of wealthy, working-class, or poor families and neighborhoods indicative of high or low socioeconomic status). They observed that both Black and White children tended to assign Whites to high-status neighborhoods and Blacks to low-status neighborhoods, but did not make systematic associations for clothing. Although no statistics were reported, the authors indicated that there was an association between the degree to which children showed this association and the degree to which children favored Whites on a measure of racial attitudes. The present studies investigate whether children in modern-day South Africa show similar associations between race and wealth.

### *South Africa*

The possibility that children could observe and represent a connection between race and wealth is especially likely in a country like South Africa, where the present research was conducted. South Africa has a history of carefully delineated status distinctions marked by racial group membership. The apartheid policies implemented in South Africa from 1948 to 1994 explicitly laid out the hierarchy of racial groups, determining the distribution of almost all aspects of social status: wealth, job prospects, political power, and access to better education, transportation, and health care (Worden, 1994). Although the official apartheid policies have been abolished for almost two decades, and while some aspects of status (e.g., political power) have changed, large wealth disparities between racial groups remain. The average annual household income for Whites in South Africa was approximately \$38,000 (USD) in 2005–2006, whereas the average annual income for Coloureds was approximately \$11,000, and for Blacks was approximately \$5,000 (Lehohla, 2008).

Income disparities between South African racial groups have cascading effects. Whites, Coloureds, and Blacks tend to live in different types of housing: While 95.1% of Whites and 85.7% of Coloureds in South Africa live in “formal dwellings” (e.g., houses, apartments, etc.), only 55.5% of Blacks do, with most of the rest of the Black population living in “traditional” or “informal dwellings” (“traditional” materials include thatch, tree branches, mud, and dung; “informal” materials include plastic, cardboard, corrugated iron, and wood;

Lehohla, 2005). Household possessions also differ systematically by racial group: A White household is more likely to own a telephone, a television, or a car than a Coloured household, which is in turn more likely to own these items than a Black household (United Nations Development Programme, 2003). In addition, Whites have higher levels of educational attainment than Coloureds or Blacks (Lehohla, 2005). Because of the strong covariation between racial group membership and concrete cues to wealth in South Africa, research in South Africa affords a unique opportunity to investigate children's developing knowledge about the relation between status and racial groups within their society.

Recent research conducted in South Africa provides evidence that children favor White and Coloured people over Black people, regardless of their own group membership (Shutts et al., 2011). Such findings may have been expected during the apartheid years when the (White) South African government explicitly favored White people over people from other racial groups. However, the observed pro-White bias is somewhat surprising in modern-day South Africa—a country where Blacks are more numerous than Whites, where the government promotes equality and tolerance, and where White people do not hold disproportionate political power (most of the South African government, including the president, is Black).

South Africa is a particularly interesting place to study children's perceptions of correlations between wealth and race because Whites, who hold the most wealth, constitute a statistical minority group. Thus, unlike in the United States, children in South Africa cannot come to veridical inferences about average wealth by simply noting the group that is most familiar, most numerous, and highest in political power. The current studies were designed to help explain the continued presence of South African children's racial preferences by exploring whether South African children might be sensitive to one facet of social status that is still overwhelmingly apparent in South Africa: racial differences in average levels of wealth. Specifically, the present studies test whether children represent a strong relation between wealth and race.

Despite our prediction that children are sensitive to the relation between race and wealth, there are some reasons to suspect that South African children may *not* think that Whites are the wealthiest group. Because of a large number of indicators of recent success by South African Blacks, children may (mistakenly) think that Blacks are higher in wealth because many Blacks appear in visible, high-status

positions—most notably, current South African President Jacob Zuma, but also notable political and social figures such as Nelson Mandela and Bishop Desmond Tutu, as well as popular musicians or athletes such as Miriam Makeba or Lucas Radebe. There has also been a recent increase in the number of middle class Black South Africans (Cohen, 2008; Unilever Institute of Strategic Marketing, University of Cape Town, 2006; “The rise of the buppies,” 2007); this could give children the (false) impression that there are no longer many poor Blacks. Alternatively, children may be egocentric and think that their group is the wealthiest, irrespective of the actual status of their own in-group; this would be consistent with previous research suggesting that children often have positively skewed views of their own groups (Dunham, Baron, & Carey, 2011).

### *The Present Research*

The present studies investigated whether or not children are aware of racial group differences in wealth. We explored this question in South Africa, a country where the association between race and status is particularly strong, and therefore potentially salient even to young children. Despite the alternative hypotheses discussed earlier, we hypothesized that children would be aware of the specific racial status hierarchy in their country (in South Africa: White > Coloured > Black), and that this awareness may develop in early childhood; this hypothesis is consistent with the majority of the social attitudes literature to date. To test this hypothesis, 3- to 10-year-old children were presented with depictions of higher and lower wealth (e.g., a large house vs. a shack; a fancy car vs. a heavily used car) and were asked to match these pictures with people from different racial groups. Through this matching paradigm, we were able to assess whether children reliably associate individuals from particular racial groups with higher wealth. Children aged 3–10 years were selected because previous work suggested that South African children in this age range show racial attitudes that align with the dominant racial hierarchy—favoring Whites the most, then Coloureds, then Blacks (Shutts et al., 2011).

### **Study 1**

Study 1 investigated whether South African children are aware of wealth differences among racial



groups. In addition to assessing whether children differentially associate racial groups with indicators of wealth, children's racial attitudes were assessed for comparison with previous research in South Africa (Elliott & Tyson, 1983; Kelly & Duckitt, 1995; Press et al., 1979; Shutts et al., 2011). We predicted that participants would show a preference for higher status racial groups irrespective of participants' own racial group membership.

### Method

*Participants.* Sixty-four children aged 4–10 years ( $M = 7.3$  years,  $SD = 1.4$  years; 29 boys, 35 girls; 10 White, 41 Coloured, 13 Black) at a racially diverse school in Cape Town, South Africa, participated in this study. The demographics of the school are largely reflective of the Cape Town region (which is approximately 48% Coloured, 32% Black, and 19% White; Statistics South Africa, 2001). All children participated in the study with a South African experimenter of their same race. Four children did not complete the preference task, and one child did not complete the matching task; these children are excluded from the relevant analyses.

*Materials and design.* The matching task and the preference task each consisted of 12 trials. All trials featured photographs of two South African people who differed in race but not gender presented on a computer screen. The lateral positions of faces of each race were counterbalanced across trials. Pairs were equated for approximate age, attractiveness, and expression. The 12 pairs of photographs in each task included 6 pairs of child faces (three boys, three girls) and 6 pairs of adult faces (three boys, three girls). Two pairs (one male, one female) in each age group featured a White face and a Black face, 2 pairs featured a White face and a Coloured face, and 2 pairs featured a Coloured face and a Black face. Stimuli were blocked by face age, but the order of different racial pairs within each block and gender within each block was randomized in one of four orders. Block order (adult vs. child faces first), lateral positions of faces of different races, positions of the photographs of high- versus low-value belongings, and which set of 12 photographs were used in the preference versus matching tasks (described in the following paragraph) were counterbalanced across participants.

The matching task also included hard copies of photographs of high- and low-value houses and cars. These photographs came from South African websites or were taken by the research team in the Cape Town area. South African research assistants

confirmed the authenticity and typicality of the selected items. High-value houses were large, fancy houses likely to be occupied by someone of the highest social class. Low-value houses were small houses or shacks, likely to be occupied by someone from the working class. Similarly, high-value cars looked fancy and new, and generally would be owned by someone from a higher social class. In contrast, low-value cars were older and looked heavily used, and generally would be owned by someone from a lower social class. Examples can be seen in Figure 1.

*Procedure.* Participants completed two tasks: a matching task and a preference task. The order of tasks was counterbalanced across participants. Children were seated at a laptop computer for the duration of the study.

For each trial of the matching task, the computer displayed two photographs of people who varied in racial group membership, and the experimenter presented two printed photographs (one higher value and one lower value) of either houses or cars. The photographs of people were presented laterally on the screen and the houses or cars were presented one above the other on the laptop keyboard. Children were asked to indicate which person lived in which house, or which person rode in (for child targets) or drove (for adult targets) which car, by placing the photograph of the house or car below or next to the images of the people on the screen. Pilot testing indicated that presenting the individual faces on the computer screen and allowing children to manipulate the physical pictures of the houses and cars was a highly engaging task for participants that also minimized the necessary dexterity required of our young participants.

For each trial of the preference task, the computer displayed two photographs of people who varied in racial group membership. Children were then asked to indicate whom they liked more by pointing to that person on the computer screen.

### Results

*Data preparation.* Scores for the matching task were computed for each racial comparison (White compared to Black, White compared to Coloured, and Coloured compared to Black) by calculating the percentage of time that children matched the person from the higher status racial group with the higher value house or car. Scores for the preference task were computed for each racial comparison (White over Black, White over Coloured, and Coloured over Black) by calculating the percentage of

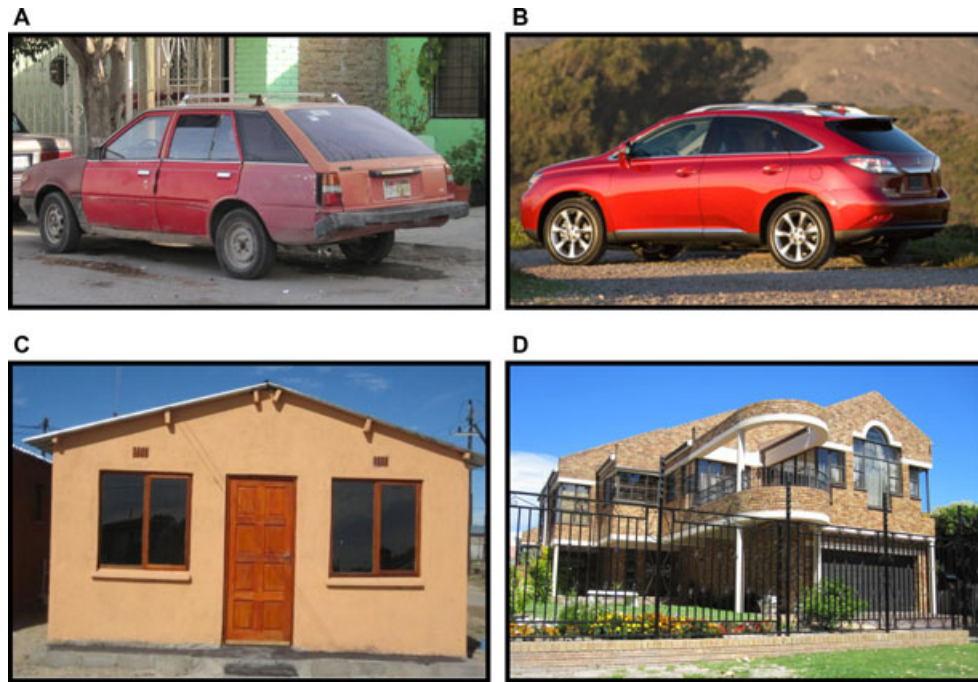


Figure 1. Example stimuli used for the Matching Task. A = low-value car, B = high-value car, C = low-value house, D = high-value house.

Note. Children saw the stimuli in full color.

time children said they preferred the member of the higher status racial group. In addition to the specific comparisons, overall “high-status matching” and “high-status preference” composites were computed by averaging the three racial comparison scores, which ranged from 0 (*never preferred the higher status group, or never matched the higher status group with the higher value goods*) to 100 (*always preferred the higher status group, or always matched the higher status group with higher value goods*).

There was no suggestion of a relation between age and the tendency to associate higher value belongings with higher status races,  $r = .12$ ,  $p > .35$ , or between age and the tendency to favor higher status races,  $r = .06$ ,  $p > .60$ . In addition, there were no significant effects of order (completing matching vs. preference first) on the matching results or the preference results,  $ps > .10$ . As such, age and order were not included in the following analyses, unless noted.

**Primary results.** Consistent with our hypothesis, participants associated higher value belongings with higher status groups overall, chance = 50%;  $M = 81\%$ , one-sample  $t$  test:  $t(62) = 15.24$ ,  $p < .001$ . Participants were more likely to match higher value belongings with Whites than with Blacks, as compared to chance (50%),  $M = 87\%$ , one-sample  $t$  test:  $t(62) = 13.95$ ,  $p < .001$ . Participants were also more likely to match higher value belongings with

Whites than with Coloureds,  $M = 76\%$ ,  $t(62) = 7.94$ ,  $p < .001$ . Finally, participants were more likely to match higher value belongings with Coloureds than with Blacks,  $M = 79\%$ ,  $t(62) = 10.00$ ,  $p < .001$ . None of these associations varied by participant race, all  $ps > .15$ , although see Table 1 for means by participant race. Although the sample size for some racial groups was small, all racial groups showed the same tendency to match higher value belongings with higher status races.

Consistent with previous work (Shutts et al., 2011), there was an overall tendency for participants to prefer higher status racial groups over lower status racial groups, chance = 50%;  $M = 73\%$ ; one-sample  $t$  test:  $t(59) = 10.10$ ,  $p < .001$ . Participants preferred Whites relative to Blacks,  $M = 81\%$ ,  $t(59) = 11.50$ ,  $p < .001$ ; Whites relative to Coloureds,  $M = 67\%$ ,  $t(59) = 4.51$ ,  $p < .001$ ; and Coloureds relative to Blacks,  $M = 71\%$ ,  $t(59) = 5.40$ ,  $p < .001$ ; one-sample  $t$  tests. These preferences did not significantly differ by participant race, as indicated by one-way analyses of variance (ANOVAs), all  $ps > .15$ , although see Table 2 for means by participant race.

If children’s knowledge of systematic racial differences in wealth contributes to the development of racial attitudes, individual differences in performance on the matching task might correlate

Table 1

*Matching Task by Participant Race, Study 1*

Racial comparison	Coloured participants				Black participants				White participants			
	<i>M</i> (%)	<i>N</i>	<i>T</i>	<i>p</i>	<i>M</i> (%)	<i>N</i>	<i>T</i>	<i>p</i>	<i>M</i> (%)	<i>N</i>	<i>t</i>	<i>p</i>
White > Black	88	41	11.20	< .001	91	13	8.95	< .001	80	10	3.67	.01
White > Coloured	76	41	6.12	< .001	69	13	2.74	.02	83	10	4.99	.001
Coloured > Black	80	41	8.60	< .001	85	13	5.74	< .001	68	10	2.09	.07

Note. *M* = mean percentage; *N* = sample size; *t* = one-sample *t* tests; *p* = significance values.

Table 2

*Preference Task by Participant Race, Study 1*

Racial comparison	Coloured participants				Black participants				White participants			
	<i>M</i> (%)	<i>N</i>	<i>t</i>	<i>p</i>	<i>M</i> (%)	<i>N</i>	<i>T</i>	<i>p</i>	<i>M</i> (%)	<i>N</i>	<i>t</i>	<i>p</i>
White > Black	84	41	10.64	< .001	79	12	7.00	< .001	69	8	1.82	.11
White > Coloured	66	41	3.38	.002	73	12	2.93	.01	66	8	1.67	.14
Coloured > Black	75	41	5.70	< .001	61	12	1.33	.21	63	8	0.94	.18

Note. *M* = mean percentage; *N* = sample size; *t* = one-sample *t* tests; *p* = significance values.

with racial attitudes. A marginally significant relation between these measures was observed, suggesting that the more a given child believed higher status races to have higher value belongings, the more that child expressed a preference for higher status racial groups,  $r = .24$ ,  $p = .073$ .

To explore the apparent absence of age effects, the 18 children who were 4–6 years of age were analyzed separately. This young sample still demonstrated a significant tendency to associate higher value belongings with higher status races,  $t(16) = 6.83$ ,  $p < .001$ , and a significant preference for higher status races,  $t(17) = 5.10$ ,  $p < .001$ . Figure 2 shows the results of the matching task and preference task by age group, comparing the 4- to 6-year-old children with the 7- to 10-year-old children.

**Supplementary results.** In addition to the primary studies of interest, we explored several supplementary questions. To reduce the likelihood of finding significant results due to chance, a Bonferroni correction was applied to these analyses.

To assess whether or not effects were consistent across stimulus types, separate analyses for each type of stimuli used to represent race were conducting using a Bonferroni correction for the number of tests conducted ( $p < .013$ ). In the matching measure, children showed significant tendencies to match higher status races with higher value belongings for male pairs,  $M = 78\%$ ,  $t(63) = 9.96$ ,  $p < .001$ ; female pairs,  $M = 81\%$ ,  $t(63) = 11.90$ ,  $p < .001$ ; child

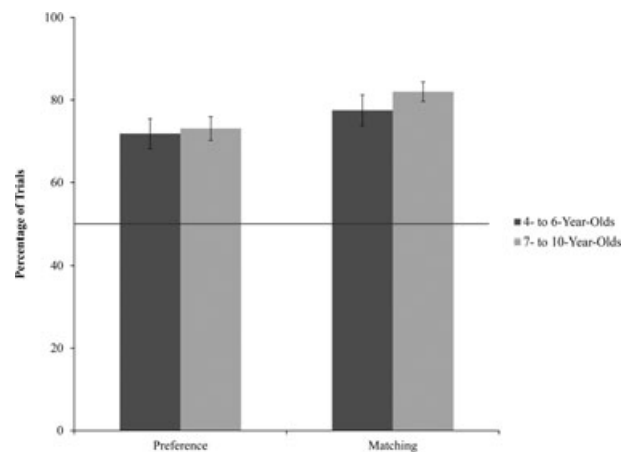


Figure 2. Results on the preference and matching measures by age group (ages 4–6 years vs. 7–10 years) in Study 1.

Note. Chance performance is 50% for both tasks. Error bars indicate standard error of the mean.

pairs,  $M = 74\%$ ,  $t(63) = 8.06$ ,  $p < .001$ ; and adult pairs,  $M = 85\%$ ,  $t(63) = 14.55$ ,  $p < .001$ . Similarly, on the preference measure, participants preferred the higher status racial group for all stimuli used to represent race: male pairs,  $M = 73\%$ ,  $t(59) = 7.83$ ,  $p < .001$ ; female pairs,  $M = 73\%$ ,  $t(59) = 7.89$ ,  $p < .001$ ; child pairs,  $M = 70\%$ ,  $t(59) = 8.29$ ,  $p < .001$ ; and adult pairs,  $M = 75\%$ ,  $t(59) = 9.25$ ,  $p < .001$ .

Because the income disparity between Whites and Blacks is larger than the income disparity between Whites and Coloureds or between

Coloureds and Blacks (Lehohla, 2008), we also predicted that the tendency to match the higher status group with the higher value belongings would be most pronounced on trials featuring one White face and one Black face, as compared to trials featuring comparisons between White and Coloured faces or Coloured and Black faces. This hypothesis was tested with a paired-sample *t* test, using a Bonferroni correction for the number of tests conducted ( $p < .025$ ). The tendency to associate Whites with higher value belongings when the comparison group was Blacks was indeed larger than when the comparison group was Coloureds,  $t(62) = 3.08$ ,  $p = .003$ . The tendency to associate Whites with higher value belongings than Blacks was not significantly larger than the tendency to associate Coloureds with higher value belongings than Blacks,  $t(62) = 2.22$ ,  $p = .030$ , using this conservation correction.

### Discussion

Consistent with our prediction, South African children in Study 1 indicated that members of higher status races were more likely to live in fancy houses and drive fancy cars than were members of lower status races. Interestingly, there was no relation between participant age and the demonstrated association between higher value belongings and higher status races. In fact, the subset of children aged 4–6 years ( $n = 18$ ) showed a strong tendency to match higher value belongings with higher status races, suggesting that this tendency emerges by the early primary school years. Thus, whether through cultural learning of stereotypes, media portrayals, or incidental observation, knowledge of this association appears early, and seems not to strengthen or weaken throughout the primary school years.

Similarly, we found no age-related changes in explicit attitudes across our wide age range, despite previous work demonstrating a developmental change in other cultural contexts (Aboud, 1988). A recent meta-analysis demonstrated that children from higher status groups show a shift from robust in-group favoritism to no in-group preference, while children from lower status racial groups show a shift in the opposite direction from no explicit preference to a strong in-group preference (Raabe & Beelmann, 2011). Although these patterns are provocative, such shifts in in-group attitudes have not been observed in recent studies of racial attitudes in South African children aged 3–13 years (Shutts et al., 2011). That said, because our sample size was small and our age range was large, future

work might investigate whether or not subtle age differences exist that we did not have enough power to detect.

We hypothesized that children would match higher value belongings with higher status races on account of a learned specific association between race and wealth. However, this pattern of results could also be explained by appeal to a different mechanism: Perhaps children see no specific association between race and wealth but instead rely on their *preferences* to guide their matching. That is, participants may have matched their favored items (higher value belongings) with their favored racial groups (Whites, and to a lesser extent Coloureds), without any *a priori* theory about a specific relation between race and wealth. To assess the validity of the latter explanation we conducted a control study testing children's expectations about gender, rather than race.

### Study 2

Decades of research on children's gender attitudes suggest that children show strong preferences for others of their own gender (Ruble, Martin, & Berenbaum, 2006). If performance on the matching task in Study 1 was guided by social preferences, children in Study 2 might match higher value items with people of their own gender. However, if children's matching performance in Study 1 was guided by beliefs about the relative status of specific groups in their society, children might not match higher value items with people of their own gender, since there is no reason to suspect that children have learned that their own gender is wealthier than the other gender. Although children in a racially diverse town or school might regularly see covariation between race and wealth, they probably do not see covariation between gender and wealth, since boys and girls come from the same neighborhoods and even the same houses. Thus, we predicted that children would show little to no systematic matching of higher value items with own-gender faces, despite showing a strong preference for own-gender faces.

### Method

**Participants.** Fifteen Coloured participants (seven boys, eight girls;  $M = 7.5$  years,  $SD = 1.8$  years) who had completed the race version of Study 1 completed this study on a subsequent day within the same week. Unfortunately, due to constraints in



testing not all participants from Study 1 completed Study 2. However, the subset of Study 1 participants who completed Study 2 did not differ from those who did not complete Study 2 on either the race-preference ( $p > .20$ ), or race-matching ( $p > .15$ ) tasks, suggesting that they were representative of the initial sample.

**Materials, design, and procedure.** The procedure for the matching and preference tasks was identical to the procedure of Study 1, with the following changes: Each trial of each task included one male person and one female person who did not differ in race. As in Study 1, half of all trials featured pictures of children and half featured pictures of adults. Four trials featured photographs of Coloured people, four trials featured photographs of Black people, and four trials featured photographs of White people. The lateral position of faces of the two genders was counterbalanced across trials. Block order (adult vs. child faces first), lateral positions of faces of different genders, and which set of 12 photographs were used in the preference versus matching tasks (described next) were counterbalanced across participants.

## Results

**Data preparation.** Composite scores similar to those in Study 1 were created to assess “same-gender matching” and “same-gender preference.” Age was not significantly correlated with the tendency to prefer one’s own gender,  $r = -.01$ ,  $p > .90$ , or with the tendency to associate higher value belongings with one’s own gender,  $r = -.02$ ,  $p > .90$ .

**Primary results.** Consistent with decades of research, participants showed a same-gender over other-gender preference: They selected same-gender peers 72% of the time (chance = 50%), one-sample  $t$  test:  $t(14) = 6.16$ ,  $p < .001$ . This tendency did not differ as a function of participant gender,  $p > .60$ , though see Table 2 for means by gender. As the table indicates, both boys and girls showed the same general patterns of response. Importantly, participants’ overall preference scores for same-gender targets did not differ in magnitude from their own preference scores for higher status races in Study 1,  $p > .50$ , making comparison between matching performance in Studies 1 and 2 straightforward.

Children associated higher value belongings with members of their own gender more often than chance (50%),  $M = 63\%$ ,  $t(14) = 3.11$ ,  $p = .008$ . This tendency did not differ as a function of participant gender,  $p > .60$ , though see Table 3 for means by gender.

Table 3

Matching and Preference Task by Participant Gender, Study 2

	Male participants				Female participants			
	<i>M</i> (%)	<i>N</i>	<i>t</i>	<i>p</i>	<i>M</i> (%)	<i>N</i>	<i>t</i>	<i>p</i>
Matching								
Same > other sex	65	7	2.10	.08	61	8	2.20	.06
Preference								
Same > other sex	70	7	3.10	.02	74	8	6.00	.001

Note. *M* = mean percentage; *N* = sample size; *t* = one-sample  $t$  tests; *p* = significance values.

In contrast to the race-preference task and gender-preference task where performance was nearly identical, participants in Studies 1 and 2 *did* differ in their performance on the race-matching and gender-matching tasks,  $t(13) = 4.56$ ,  $p = .001$ , paired  $t$  test. As illustrated in Figure 3, participants matched higher value belongings with higher status racial groups (Study 1) more than with their preferred (own) gender group (Study 2). (One participant completed the race-preference but not the race-matching task, reducing the degrees of freedom by one for the matching comparison.)

**Supplementary results.** Further analyses focused on the robustness of children’s preferences and matching tendencies across different types of stimuli. Participants preferred people of their own gender for all stimuli used to represent gender, with a Bonferroni correction for the number of tests conducted ( $p < .01$ ): White pairs,  $M = 68\%$ ,  $t(14) = 3.21$ ,  $p = .006$ ; Coloured pairs,  $M = 77\%$ ,  $t(14) = 5.87$ ,  $p < .001$ ; Black pairs,  $M = 72\%$ ,  $t(14) = 3.66$ ,  $p = .003$ ;

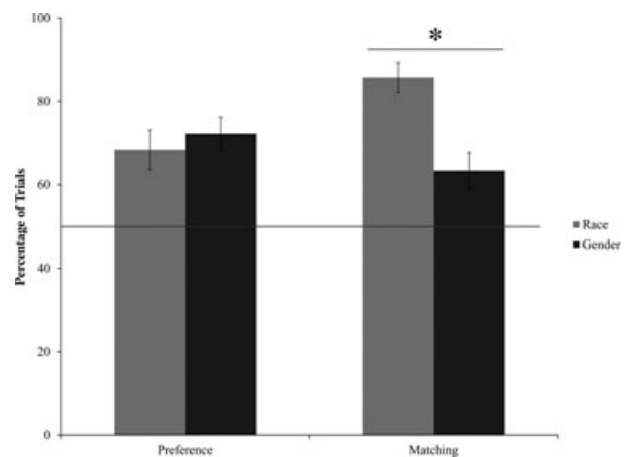


Figure 3. Results on the preference and matching measures by type of stimuli (race vs. gender) presented in Study 1 (race) and Study 2 (gender).

Note. Chance performance is 50% for both tasks. Error bars indicate standard error of the mean.

child pairs,  $M = 74\%$ ,  $t(14) = 4.79$ ,  $p < .001$ ; adult pairs,  $M = 70\%$ ,  $t(14) = 4.58$ ,  $p < .001$ . Tendencies to match higher value belongings to children's own gender as functions of the stimuli used to represent gender are not all significant when we apply a Bonferroni correction for the number of tests conducted ( $p < .01$ ): White pairs,  $M = 62\%$ ,  $t(14) = 1.83$ ,  $p = .089$ ; Coloured pairs,  $M = 62\%$ ,  $t(14) = 2.17$ ,  $p = .048$ ; Black pairs,  $M = 67\%$ ,  $t(14) = 2.32$ ,  $p = .036$ ; child pairs,  $M = 66\%$ ,  $t(14) = 2.82$ ,  $p = .014$ ; adult pairs,  $M = 61\%$ ,  $t(14) = 2.09$ ,  $p = .055$ . This suggests that the tendency to associate one's own gender with higher value belongings is not robust.

*Comparing Studies 1 and 2.* It is possible that children failed to show as strong an association between their own gender and wealth as they showed between race and wealth because they believed that one gender (most likely men) is higher in status than the other gender (women). However, there was no evidence that this was the case; children were just as likely to associate higher value belongings with women as with men ( $p > .80$ ).

A second way to ask whether children more strongly associate race with wealth than gender with wealth is to conduct nonparametric analyses on individual-level data. Of the participants included in Study 2, the majority of participants (79%) matched higher status racial groups with higher value belongings on at least 10 of 12 trials, yielding above-chance performance for each of those children individually (sign test,  $p = .039$ ). According to the same criterion, only 7% of participants consistently associated their own gender with higher value belongings. A Wilcoxon signed ranks test confirmed that significantly more participants showed a significant tendency to associate race with wealth than gender with wealth,  $Z = 3.16$ ,  $p = .002$ .

### Discussion

Study 2 provides evidence that children's strong tendency to associate higher value belongings with higher status races, as demonstrated in Study 1, cannot be explained by a simple strategy of matching preferred, higher value items with preferred groups. Although children in Study 2 did match higher value belongings with their preferred (own) gender, they did so to a much lesser extent than they did with preferred racial groups in Study 1. Although the sample size of this study was small, this difference between the treatment of race and gender was remarkably robust; in fact, when analyzing individual children's performance only 7% of participants completing

both tasks showed a significant association between their own gender and wealth, compared to 79% who showed a significant association between race and wealth.

Although the comparison of Studies 1 and 2 suggests that children assign race to wealth more systematically than gender, the methodology employed in these studies did not allow us to pit race and gender directly against one another within the same task. Moreover, participants did not have the option to indicate that no one owned a lower value belonging, and all participants completed the race tasks before the gender tasks, perhaps priming children to think about these tasks in terms of race.

### Study 3

Study 3 was designed to be a second and more stringent test of our hypothesis that children associate wealth with race more strongly than with gender. In Study 3, targets were presented individually (e.g., a White boy) and participants were asked to pair each target person with either a higher or lower value belonging. Responses to each target could therefore be analyzed both by race (e.g., White) and by gender (e.g., male) to determine which feature children weighed more heavily when making inferences about wealth. In addition, this method allowed children to match every target person, irrespective of race or gender, with higher value belongings, rather than requiring children to match some people with lower value belongings.

### Method

*Participants.* A total of 20 children aged 3–10 years participated in the study ( $M = 6.9$  years,  $SD = 1.9$  years; 6 boys, 14 girls; 5 White, 9 Coloured, 2 Black, 4 Indian).

*Procedure.* Children were seated at a laptop computer for the duration of the study. There were 12 trials, and each trial featured a single child target; there were an equal number of targets from each racial group (4 White, 4 Coloured, and 4 Black), and an equal number of male and female targets in each racial group (e.g., 2 White males and 2 White females). Trials were presented in a single randomized order to all participants. On each trial, the computer displayed the photograph of the target child; then, the experimenter presented printed photographs of two personal belongings differing in value (two houses or two cars; the higher and lower value belongings used in Study 3 were iden-

tical to those used in Studies 1 and 2). Lateral position of the higher and lower value belongings was counterbalanced across trials. Participants were asked to indicate which house the target child lived in or which car the target child rode in; pairings of specific targets to houses vs. cars were counterbalanced across participants.

### Results

Collapsing across target race and gender, participants were more likely than chance to match higher value rather than lower value belongings to target people (chance = 50%),  $M = 69\%$  to high status,  $t(19) = 4.35, p < .001$ . The strength of this effect differed as a function of the racial group of the target face,  $F(2, 38) = 13.64, p < .001$ , repeated measures ANOVA. Higher value belongings were matched with White targets 89% of the time, significantly more often than chance,  $t(19) = 11.46, p < .001$ , and with Coloured targets 70% of the time, again more often than chance,  $t(19) = 2.79, p = .012$ , but higher value belongings were matched with Black targets only 49% of the time, which did not differ from chance,  $t(19) < 1, p > .80$ . Higher value belongings were associated with White targets more often than with Coloured targets,  $t(19) = 2.26, p = .036$ , or with Black targets,  $t(19) = 5.62, p < .001$ ; and with Coloured targets more often than with Black targets,  $t(19) = 2.82, p = .011$ ; see Figure 4. As discussed earlier, these data could also be analyzed according to gender. Higher value belongings were matched with both groups more often than chance, own-gender:  $t(19) = 4.65, p < .001$ ; other-gender:  $t(19) = 2.67,$

$p = .015$ ; see Figure 4. There was a trend to match higher value belongings with own-gender targets more often than with other-gender targets ( $M = 74\%$  vs.  $64\%$ , respectively), but this trend was only marginally significant,  $t(19) = 1.74, p = .097$ .

*Comparisons of race and gender.* Higher value belongings were matched with White targets more often than with same-gender targets,  $t(19) = 2.68, p = .015$ , or other-gender targets,  $t(19) = 4.71, p < .001$ , as indicated by paired  $t$  tests. Higher value belongings were matched with Black targets less often than same-gender targets,  $t(19) = 5.28, p < .001$ , or other-gender targets,  $t(19) = 3.04, p = .007$ . Higher value belongings were as likely to be matched with Coloured targets as with same-gender targets,  $t(19) = 0.75, p > .40$ , or other-gender targets,  $t(19) = 1.06, p > .30$ .

### Discussion

The results of Study 3 parallel those from Studies 1 and 2. In Study 3, children showed a strong tendency to associate higher value belongings with higher status races, and only a marginally significant tendency to associate higher value belongings with their own gender. The tendency to associate wealth with race more than with gender was especially pronounced in comparisons of White versus Black targets: Children strongly associated higher value belongings with Whites, and they were less likely to associate higher value belongings with Blacks than with any of the other racial or gender groups.

One interesting and unexpected pattern observed in Study 3 was that children were equally likely to assign Blacks to higher value ( $M = 49\%$ ) and lower value ( $M = 51\%$ ) houses. Although our previous findings suggested that children might systematically assign Blacks to lower value houses, these results suggest that the forced-choice design employed in Studies 1 and 2 may have been driven primarily by the belief that Whites and Coloureds live in higher value houses, rather than the belief that Blacks live in lower value houses. Alternatively, children may have been generally hesitant to indicate that anyone lives in lower value belongings, a claim supported by the fact that across all targets children assigned most people to higher value belongings. Therefore, children's chance performance may indicate conflict within children—on the one hand a tendency to match Blacks with lower value belongings because of a belief that Blacks tend to live in lower value houses or ride in lower value cars, while on the other hand a reluctance to assign

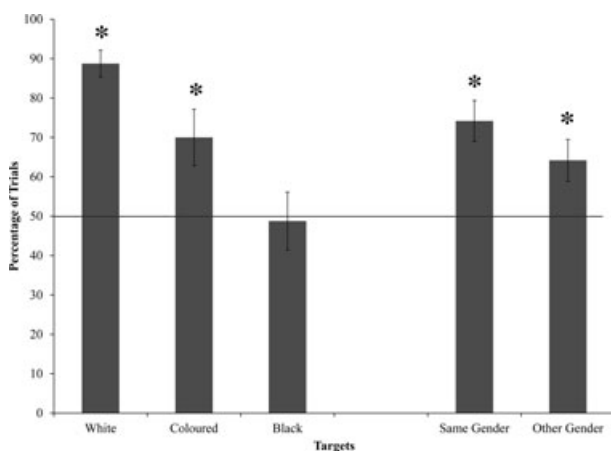


Figure 4. Percentage of time higher value (rather than lower value) belongings were matched with each category of target in Study 3.

Note. Chance performance is 50%. Error bars indicate standard error of the mean.

low-value items to anyone. Future work might assess whether children associate Blacks with other indicators of lower social status, and ask children to provide reasons for their choices.

Due to the small sample size and the large age range, we urge caution in interpreting the results of Study 3. Two limitations of running our studies in this Cape Town school were the limited amount of time children could participate in these studies and the limited number of participants available; after running participants in the primary and control studies, there were relatively few children available to participate in Study 3. However, the convergence of the results across all three studies, including a much larger sample in Study 1, serves to allay some of these concerns.

### General Discussion

Taken together, the findings from the present studies indicate that South African children associate particular racial groups with different levels of wealth, one salient aspect of social status. Participants paired higher value belongings with members of higher status racial groups (Whites, and to a lesser extent, Coloureds) and paired lower value belongings with members of lower status racial groups (Blacks, and to a lesser extent, Coloureds). When thinking about wealth, children made consistent use of racial group membership to a greater extent than another social category about which they express social preferences, gender.

The most parsimonious explanation for this pattern of results is that children, irrespective of their own group membership, held a consensual view about who is wealthier. Participants did not indicate that South Africa's largest group (Blacks) was the wealthiest, nor did they indicate that their own racial group was the wealthiest (unless they themselves were members of the wealthiest group). This finding builds on previous research on children's attitudes suggesting that children might have knowledge of racial groups' relative social status (e.g., Aboud, 2003; Shutts et al., 2011), as well as research showing that children link race with indicators of social status (Bigler et al., 2003; Radke & Trager, 1950).

Importantly, parallel results were found across two methods of assessing the association between race and wealth. In Study 1, children were asked to match pairs of belongings denoting different levels of wealth with pairs of individuals differing in race. Children were more likely to associate higher value

belongings with Whites than with Coloureds or Blacks; children were also more likely to associate higher value belongings with Coloureds than with Blacks. In Study 3, a more conservative approach was applied that did not require children to associate any targets with lower value belongings: children were asked to match either higher or lower value belongings with target individuals presented one at a time. Although these children had an overall tendency to associate people with higher value belongings, they did so to varying degrees for each racial group: Consistent with the first study, higher value belongings were most likely to be paired with Whites, followed by Coloureds, followed by Blacks, who were just as likely to be matched with higher value belongings as lower value belongings. Even with this more conservative approach, children conformed to a clear racial hierarchy when associating racial groups with indicators of wealth.

Race appears to be a social category that is particularly deeply associated with differences in wealth. In Studies 2 and 3, children showed a small tendency to match higher value belongings with their preferred (own) gender, but this tendency was significantly smaller than the tendency to match higher value belongings with higher status racial groups. This pattern of results suggests that something beyond preference—presumably, some representation of the covariation between race and wealth—was driving children's consistent tendency to associate differing degrees of wealth with racial groups in accordance with the racial hierarchy in place in their society.

Unlike research conducted three decades ago in the United States suggesting that children below third grade did *not* connect race to wealth disparities (Zinser et al., 1981), the young children in the present studies clearly showed these associations. In fact, the tendency to associate race with wealth was just as strong in our youngest participants (4- to 6-year-old children) as in our older participants (7- to 10-year-old children), suggesting that this association is not learned later in childhood; rather, it is already in place by the early primary school years. Although our sample size was too small to assess more subtle age-related differences, future work might probe the question of age-related changes using a larger sample. For example, these data do not shed light on whether an initial representation of group status is created early and then remains fixed throughout childhood or whether this representation continues to be updated (but, given the consistent input from a country like South Africa, remains unchanged). Future studies might attempt to determine whether



the difference in results between the present findings and those of Zinser et al. (1981) is due to a stronger association between race and wealth in South Africa than the U.S., historical changes over time, methodological differences between the tasks, or some other combination of factors.

These results raise the question of how children come to form associations between race and wealth. In South Africa there are real statistical differences in wealth between racial groups (Lehohla, 2008); children could observe these differences firsthand by noticing the types of neighborhoods that racial groups tend to live in, the types of transportation people use, or any number of other indirect indicators of wealth apparent in daily life. Alternatively, or in addition, children could learn this information from media portrayals in which Whites may be shown working in higher earning occupations, living in fancier neighborhoods, or attending better schools. Finally, children may acquire cultural stereotypes about racial differences in wealth from their family, peers, or community. These results suggest, however, that children are learning the association between race and status, information that runs counter to this association—such as the increasing presence of the Black middle and upper class, the rise of Black political and social power, and the fact that Blacks are the statistical majority—is not strong enough to eliminate the perception of this association from the minds of young South Africans. Future research should focus on how children come to associate race with wealth and on how to eliminate this association if the disparity itself is not eliminated.

The present studies focused on wealth as an indicator of social status, because wealth is likely to be salient in young children's lives, especially in South Africa—but, of course, wealth is just one cue to social status. As reviewed earlier, there is evidence that older Black children associate U.S. racial groups with occupational status (Bigler et al., 2003). Other aspects of social status are also likely to covary with racial group membership in reality, through media portrayals, and in cultural stereotypes. Future research might investigate a full range of factors that children might interpret as being indicative of, or correlated with, social status. For example, do children pick up on cues such as educational achievement, neighborhood, or access to more powerful social networks? If so, do they think that racial groups differ systematically on these dimensions? Furthermore, future research might explore children's associations between social status and perceived power and social mobility.

Even with our modest sample sizes, we observed similar results across multiple studies and multiple ages; nonetheless, future research is required to draw strong conclusions and to determine the generalizability of our findings to other environments within Cape Town, to settings outside of Cape Town, and to communities outside of South Africa. The Cape Town region is one of the most diverse areas of South Africa, and the participants in the present studies had extensive exposure to all major racial groups at their school; whether children with less firsthand exposure would show these effects remains an open question. In addition, this initial research was conducted in South Africa because of the extremely strong relation between race and social status; might children show the same associations in countries where a more subtle relation exists between race and social status? For example, will children in the United States show a similar tendency to associate specific racial groups (e.g., Asians, Blacks, Hispanics, Whites) with differing levels of wealth or other indicators of social status?

In addition to children's tendency to associate higher status racial groups with higher value belongings, South African children tended to *prefer* individuals who are members of these higher status racial groups. This pattern of results is consistent with previous findings (Shutts et al., 2011), and is best summarized as a tendency for children to prefer groups that are high in social status. Only some children (Whites) demonstrated a robust preference for their in-group, and no child demonstrated a robust preference for the racial group that currently comprises the statistical majority in their country and wields the most political power (Blacks), nor for the racial group that currently constitutes the statistical majority in their region of the country (Coloureds). Instead, children from all racial groups demonstrated preferences congruent with the de facto racial hierarchy in their society. Despite the number of critical changes that have occurred over the last 20 years in South Africa, children's racial attitudes, at least in the Cape Town region, appear to mirror those of South African children in the apartheid years (Fincham, 1978; Gregor & McPherson, 1966; Press et al., 1979)—perhaps because so many indicators of social status (including wealth) are still disproportionately allocated to Whites as compared to Coloureds and Blacks.

Cues like the value and quality of personal belongings, in addition to other indicators of social status, may constitute the type of information that children use in determining how much their society values racial groups relative to each other. This

understanding, in turn, may influence children's attitudes toward other groups and toward their own. The longer term implication of associating racial groups with varying degrees of status is unknown, but there are reasons to suspect such associations are problematic. Of great concern is the general tendency for people to believe that the way things are is the way they are supposed to be (Lerner, 1980), as well as the tendency to preserve the perceived status quo (Jost & Banaji, 1994; Kahneman et al., 1991; Sidanius & Pratto, 1999). Insofar as children perceive there to be differences in the relative status of racial groups, these tendencies may result in children believing that racial group differences in status are justifiable, and even normative. Taken one step further, if children believe that racial differences in status are justifiable, they may alter their own behavior accordingly—for example, seeking lower status occupations if they are members of lower status groups, or otherwise altering their own expectations for themselves and other members of their group.

### Conclusions

These studies are unique in demonstrating that by the primary school years South African children are acutely aware of correlations between wealth and racial group membership. These data are important in informing both discussions of children's understanding of social status and also broader discussions of how children evaluate the people around them, how children think about their own status, and how children think about opportunities in their own lives. Parents and teachers often have the intuition that children know little about race. Although the racial attitudes literature has suggested that this mentality is misguided, the present data suggest that children not only have attitudes about racial groups but also make specific ascriptions of wealth associated with different racial groups in line with the de facto racial hierarchy of their society. Given our knowledge of errors in human logic (e.g., Jost & Banaji, 1994; Kahneman et al., 1991; Lerner, 1980), we call attention to the troubling possibility that these perceptions of hierarchies could color children's interpretations of how the world should be.

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